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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,026	09/04/2003	Carl E. Keller	31709-1001	9047
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PEACOCK MYERS AND ADAMS P C			LARKIN, DANIEL SEAN	
P O BOX 26927			ART UNIT	PAPER NUMBER
ALBUQUERQUE, NM 871256927			2856	

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/657,026

Applicant(s)

KELLER, CARL E.

Examiner

Daniel S. Larkin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-23 is/are rejected.
- 7) ☒ Claim(s) 1-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4 September 2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Reference numeral "15" does not appear within Figures 1 and 1a as first suggested by the disclosure on page 10, line 31.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "5", as shown in Figures 1 and 1a, and "15", as shown in Figure 2, have both been used to designate a "roller".

3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

5. The disclosure is objected to because of the following informalities:

Page 5, line 26: The numeral "40" should be corrected to read -- forty --.

Page 9, line 24: The numeral "30" should be corrected to read -- thirty --.

Page 9, line 25: The numeral "4" should be corrected to read -- four --.

Page 13, line 12: Both occurrences of the numeral "5" should be corrected to read -- 15 --, since the "guided roller" has been designated as reference numeral 15, as disclosed previously on page 10, line 31. Additionally, the roller in Figure 2 is labeled as reference numeral "15". Alternatively, the roller in Figure 2 could be renumbered -- 5 --, similar to what is shown in Figures 1 and 1a; and the specification on page 16, line 31 and page 17, line 1 should be corrected to read -- 5 -- as well.

Page 13, line 27: The term "radial" should be corrected to read -- radially --.

Page 15, lines 12, 15, and 33: Reference numeral "5" should be corrected to read -- 15 --, as shown in Figure 2.

Page 22, line 15: The ")" after the second occurrence of the term "ascent" should be deleted.

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Page 22, line 32: A -- space -- should be inserted between reference numeral "41" and the term "between".

Page 24, line 25: The numeral "4" should be corrected to read -- four --.

Page 24, line 33: The numeral "40" should be corrected to read -- forty --.

Appropriate correction is required.

### ***Claim Objections***

6. Claims 1-23 are objected to because of the following informalities:

Re claim 1, claim line 6: The conjunction -- and -- should be inserted after the term "velocity".

Re claim 7, claim line 2: The term "hole" should be corrected to read -- borehole --.

Re claim 9, claim line 2: The phrase "the ascending liner" lacks antecedent basis.

Re claim 10, claim line 2: The term "hole" should be corrected to read -- borehole --.

Re claim 11, claim line 2: The phrase "the top end" lacks antecedent basis. It is reasonable to assume that the liner is being passed into a borehole through vertical movement of the liner; however, the claim does not expressly recite this so one could interpret the borehole as being horizontal, thus eliminating a top end and a bottom end of the liner.

Re claim 12, lines 1 and 2: The phrase "the monitored tension" lacks antecedent basis.

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Re claim 12, claim line 3: The phrase "the segment" lacks antecedent basis.

Re claim 12, claim line 3: The term "hole" should be corrected to read -- borehole --.

Re claim 13, claim line 2: The phrase "the segment" lacks antecedent basis.

Re claim 13, claim line 3: The term "hole" should be corrected to read -- borehole --.

Re claim 14, claim lines 2 and 3: Is this "surrounding material" the same as that previously recited in claims 1 and 13? The article "a" should be corrected to read -- the --.

Re claim 17, claim line 7: The conjunction -- and -- should be inserted after the term "velocity".

Re claim 17, claim line 9: The term "hole" should be corrected to read -- borehole --.

Re claim 21, claim lines 2 and 3: Is this "surrounding material" the same as that previously recited in claim 17? The article "a" should be corrected to read -- the --. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. Claims 17-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Re claim 17, claim lines 1-9: The claim recites a method of determining physical characteristics of materials surrounding a subsurface borehole; however, the claim after presenting a plurality of steps fails to correlate the determination of a gross flow rate of ambient water into the surrounding material with a determination of a physical characteristic of the material surrounding the borehole.

### ***Double Patenting***

8. Applicant is advised that should claim 7 be found allowable, claim 10 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof.

When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Allowable Subject Matter***

9. The following is a statement of reasons for the indication of allowable subject matter:

Prior art was not relied to reject claims 1-23 because the prior art fails to teach and/or make obvious the following:

Claims 1-16: Determining the hydraulic conductivity of material surrounding a conduit or a borehole comprising the steps of: measuring an eversion point velocity of a flexible liner being passed along the borehole; and

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calculating the conductivity of the surrounding material from the velocity of the eversion point in combination with all of the remaining limitations of the claim.

Claims 17-23: Determining physical characteristics of materials surrounding a subsurface borehole, comprising the steps of: continuously measuring an eversion point decent velocity of an everted liner that is being driving down the borehole; and determining a gross flow rate of ambient water within the borehole outward into the surrounding material from a segment of the borehole adjacent the eversion point of the liner in combination with all of the remaining limitations of the claim.

The closest prior art teaches passing a sealed and everted flexible liner into a borehole using a pressurized fluid or water in order to seal the borehole. The prior art, however, fails to teach measuring the decent velocity of the liner and correlating the velocity with a hydraulic conductivity measurement; or determining physical characteristics of the materials surrounding the borehole by measuring a gross flow rate of ambient water outward into the surrounding material as the flexible liner displaces the water from the borehole.

10. Claims 1-16 are objected to, but would be allowable if the objections noted above in paragraphs 6 and 8 were corrected.

11. Claims 17-23 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.



***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The prior art to JP 55-67410 (Yagi) discloses a method of lining a pipe with a tubular liner comprising clamping the liner to the pipe and feeding pressurized gas into tube to feed liner into tube at constant speed.

The prior art to US 4,064,211 (Wood) discloses a method wherein a tubular liner is applied to the inside of a pipe by turning the line inside out and using water to force the liner through the pipe.

The prior art to US 4,385,885 (Wood) discloses a method of lining a passageway by providing a flexible liner that is everted into the passageway using liquid under pressure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Larkin whose telephone number is 571-272-2198. The examiner can normally be reached on 8:00 AM - 5:00 PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Larkin  
AU 2856  
01 December 2004



**DANIEL S. LARKIN**  
**PRIMARY EXAMINER**